UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,445	11/21/2006	Masahiro Inoue	283692US90PCT	8214

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EXAMINER
IQBAL, KHAWAR

ART UNIT	PAPER NUMBER
2617	

NOTIFICATION DATE	DELIVERY MODE
05/25/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
Office Action Summary	10/561,445	INOUE ET AL.
	Examiner	Art Unit	
	KHAWAR IQBAL	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *23 July 2010*.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-9* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1-9* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>07/23/2010</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Prosecution Application

A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3-12-10

has been entered.

Response to Arguments

1.   Applicant's arguments with respect to claims 1-9 have been considered but are

moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Funato et al (20060025161) in view of Claude Castelluccia (An Adaptive Per-Host IP

Paging Architecture).

Regarding claim 1 Funato teaches a controller apparatus configured to

implement paging control in which, when the controller apparatus receives a packet

addressed to a mobile terminal (MH 902, fig. 9), the controller apparatus transmits a

paging notification packet to a paging area of the mobile terminal, so as to obtain

location information on the mobile terminal (MH 902, fig. 9) and to determine a

forwarding destination of the packet, the controller apparatus comprising (abstract):

a paging area forming unit (920, fig. 9) having a plurality of algorithm (The

communication network 100 is configured to provide paging for mobile hosts MHs in the

network and for example paging areas reconfigure themselves according to changes in

movement traffic of MHs, dynamic configuration of paging areas and

automatically/dynamic configured) for forming the paging area, para. 0075-0076);

wherein the paging area forming unit (920, fig. 9) is configured to form the

paging area of the mobile terminal (MH 902, fig. 9) by an algorithm (see detail in fig. 11-

12) of the plurality of algorithm which is associated and application started by the mobile

station and is specified by the mobile terminal (fig. 20, elements 908 {2004 and 2006}

applications started by the mobile host to an access point, Identifier of current paging

area of access point (106,108,110-116) of telecommunication network (100) is received

at a mobile host (MH) (120,122), subsequently, and the location information from the

mobile host is transmitted to the access point. On detection of a location change of the

MH, the old location information is transmitted to a new access point of the

telecommunication system, para. # 0050-0051, 0064-0065, 0086, 0145). Funato does

not specifically teach algorithm being associated with an application started by the

mobile terminal.

In the same field of endeavor, Claude Castelluccia discloses algorithm which is

associated with an application according to a communication use of the mobile

terminal, and the application is started by the mobile terminal and is specified by the

mobile terminal (Section 4.1-4.3). Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to modify the device of

Funato by specifically adding feature algorithm which is associated with an application

according to a communication use of the mobile terminal, and the application is started

by the mobile terminal and is specified by the mobile terminal in order to enhance

system performance to reduces cost of wireless systems and increases their

performance as taught by Claude Castelluccia.

Regarding claim 2 Funato teaches wherein the paging area forming unit is

configured to form the paging area of the mobile terminal, in accordance with a load

condition or traffic distribution of the controller apparatus (para. # 0083-0085).

Regarding claim 3 Funato teaches a mobile terminal configured to implement

paging control in which, when a controller apparatus receives a packet addressed to the

mobile terminal, the controller apparatus transmits a paging notification packet to a

paging area of the mobile terminal, so as to obtain location information on the mobile

terminal and to determine a forwarding destination of the packet, the mobile terminal

comprising (fig. 1-9 and 20, abstract):

an algorithm specifying unit configured to specify, to the controller apparatus

(920, fig. 9), an algorithm for forming the paging area of the mobile terminal (mobile host

MH), the algorithm being associated with an application started by the mobile terminal

(para. # 0064, 0086, 0075-0077, 0111-0114, fig. 9-12); and

a paging control unit (908, fig. 20) configured to perform the paging control based on

information on the paging area formed by the controller apparatus based on the

algorithm (when the received paging area identification information does not match the

stored paging area identification information, transmitting the Paging ID, PCA NAI and

the location information to a new access point. Dynamic paging area configuration

algorithm, PCA 920 operates to receive movement reports from mobility reporter agents

of mobile hosts in communication with last hop router 904, 906. A PCA is notified by a

dormant monitoring agent (DMA) of a packet arrival to a mobile host and sends paging

clustering messages to the local paging agent (LPA) clusters. Once the PCA 920

receives positive or negative results from LPA clusters, the PCA notifies the DMA para.

0075-0076, 0086-0090, 0111-0114, fig. 9-12). Funato does not specifically teach

algorithm being associated with an application started by the mobile terminal.

In the same field of endeavor, Claude Castelluccia discloses algorithm which is

associated with an application according to a communication use of the mobile

terminal, and the application is started by the mobile terminal and is specified by the

mobile terminal (Section 4.1-4.3). Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to modify the device of

Funato by specifically adding feature algorithm which is associated with an application

according to a communication use of the mobile terminal, and the application is started

by the mobile terminal and is specified by the mobile terminal in order to enhance

system performance to reduces cost of wireless systems and increases their

performance as taught by Claude Castelluccia.

Regarding claim 4 Funato teaches a processing language specifying unit

configured to specify, to the controller apparatus, a processing language in which an

algorithm for forming the paging area is written; wherein the algorithm specifying unit is

configured to specify the algorithm written in the processing language when a result of

determination that the processing language can be handled is received from the

controller apparatus (para. # 0051, 0073-0074, 0082, see above).

Regarding claim 5 Funato teaches a controller apparatus configured to

implement paging control in which, when the controller apparatus receives a packet

addressed to a mobile terminal, the controller apparatus transmits a paging notification

packet to a paging area of the mobile terminal, so as to obtain location information on

the mobile terminal and to determine a forwarding destination of the packet, the

controller apparatus comprising:

an algorithm specifying unit configured to specify, to the mobile terminal,

identification information of an algorithm stored in the mobile terminal for the mobile

terminal to user in forming the paging area of the mobile terminal (para. # 0064, 0086,

0145, fig. 9-12 and 20, see detail in claim 1); and

a paging control unit configured to perform the paging control based on the paging area

formed by the mobile terminal based on the algorithm (dynamic paging area

configuration algorithm, PCA 920 operates to receive movement reports from mobility

reporter agents of mobile hosts in communication with last hop router 904, 906. A PCA

is notified by a dormant monitoring agent (DMA) of a packet arrival to a mobile host and

sends paging clustering messages to the local paging agent (LPA) clusters. Once the

PCA 920 receives positive or negative results from LPA clusters, the PCA notifies the

DMA para. # 0064-0070, 0086-0090, 0111-0114, fig. 9-12). Funato does not specifically

teach algorithm being associated with an application started by the mobile terminal.

In the same field of endeavor, Claude Castelluccia discloses algorithm which is

associated with an application according to a communication use of the mobile

terminal, and the application is started by the mobile terminal and is specified by the

mobile terminal (Section 4.2-4.3). Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to modify the device of

Funato by specifically adding feature algorithm which is associated with an application

according to a communication use of the mobile terminal, and the application is started

by the mobile terminal and is specified by the mobile terminal in order to enhance

system performance to reduces cost of wireless systems and increases their

performance as taught by Claude Castelluccia.

Regarding claim 6 Funato teaches a processing language specifying unit

configured to specify, to the mobile terminal, a processing language in which an

algorithm for forming the paging area is written; wherein the algorithm specifying unit is

configured to specify the algorithm written in the processing language when a result of determination that the processing language can be handled is received from the mobile terminal (para. # 0064, 0083-0086, 0145, fig. 9 and 20).

Regarding claim 7 Funato teaches a mobile terminal configured to implement paging control in which, when a controller apparatus receives a packet addressed to a mobile terminal, the controller apparatus transmits a paging notification packet to a paging area of the mobile terminal, so as to obtain location information on the mobile terminal and to determine a forwarding destination of the packet, the mobile terminal comprising:

a paging area forming unit associating and storing an identification information of an application and an identification information of an algorithm for forming the paging area (para. # 0064, 0086, 0145, fig. 9 and 20);

wherein the paging area forming unit is configured to form the paging area of the mobile terminal by an algorithm specified by the controller apparatus which corresponds to the identification information of the algorithm associated with the identification information of the application started by the mobile terminal (dynamic paging area configuration algorithm, PCA 920 operates to receive movement reports from mobility reporter agents of mobile hosts in communication with last hop router 904, 906. A PCA is notified by a dormant monitoring agent (DMA) of a packet arrival to a mobile host and sends paging clustering messages to the local paging agent (LPA) clusters. Once the PCA 920 receives positive or negative results from LPA clusters, the PCA notifies the DMA para.

0064-0070, 0086-0090, 0111-0114, fig. 9-12 and 20). Funato does not specifically teach algorithm being associated with an application started by the mobile terminal.

In the same field of endeavor, Claude Castelluccia discloses algorithm which is associated with an application according to a communication use of the mobile terminal, and the application is started by the mobile terminal and is specified by the mobile terminal (Section 4.1-4.3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Funato by specifically adding feature algorithm which is associated with an application according to a communication use of the mobile terminal, and the application is started by the mobile terminal and is specified by the mobile terminal in order to enhance system performance to reduces cost of wireless systems and increases their performance as taught by Claude Castelluccia.

Regarding claim 8 Funato teaches wherein the paging area forming unit is configured to form the paging area of the mobile terminal, in accordance with a communicating use or movement characteristics of the mobile terminal (para. # 0064, 0083-0086, 0145).

Regarding claim 9 Funato teaches a mobile terminal configured to implement paging control in which, when a controller apparatus receives a packet addressed to a mobile terminal, the controller apparatus transmits a paging notification packet to a paging area of the mobile terminal, so as to obtain location information on the mobile terminal and to determine a forwarding destination of the packet, the mobile terminal comprising:

a paging area forming unit associating and storing an identification information of an

application and an identification information of an algorithm for forming the paging

area; and a transmitting unit configured to transmit, to the controller apparatus,

information on the paging area formed by the paging area forming unit (para. # 0064-

0069, 0083-0086, 0145, fig. 9 and 20);

wherein the paging area forming unit forms a paging area of the mobile terminal based

on an algorithm corresponding to the identification information of the algorithm

associated with the identification information of the application started by the mobile

terminal, and wherein, when information on the paging area different from the

information on the paging area formed by the paging area forming unit is received from

the controller apparatus, the transmitting unit is configured to transmit, to a different

controller apparatus, the information on the paging area formed by the paging area

forming unit (dynamic paging area configuration algorithm, PCA 920 operates to receive

movement reports from mobility reporter agents of mobile hosts in communication with

last hop router 904, 906. A PCA is notified by a dormant monitoring agent (DMA) of a

packet arrival to a mobile host and sends paging clustering messages to the local

paging agent (LPA) clusters. Once the PCA 920 receives positive or negative results

from LPA clusters, the PCA notifies the DMA para. # 0064-0070, 0086-0090, 0111-

0114), fig. 9-12 and 20). Funato does not specifically teach algorithm being associated

with an application started by the mobile terminal.

In the same field of endeavor, Claude Castelluccia discloses algorithm which is

associated with an application according to a communication use of the mobile

terminal, and the application is started by the mobile terminal and is specified by the

mobile terminal (Section 4.1-4.3). Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to modify the device of

Funato by specifically adding feature algorithm which is associated with an application

according to a communication use of the mobile terminal, and the application is started

by the mobile terminal and is specified by the mobile terminal in order to enhance

system performance to reduces cost of wireless systems and increases their

performance as taught by Claude Castelluccia.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to KHAWAR IQBAL whose telephone number is (571)272-

7909. The examiner can normally be reached on 8:30 am to 5.00 pm Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, KAMRAN AFSHAR can be reached on 571-272-7796. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. I./
Examiner, Art Unit 2617

/KAMRAN AFSHAR/
Supervisory Patent Examiner, Art Unit 2617